



[7590-01-P]

NUCLEAR REGULATORY COMMISSION

[NRC-2011-0129]

Preoperational Testing of Emergency Core Cooling Systems for Pressurized-Water Reactors

AGENCY: Nuclear Regulatory Commission.

ACTION: Regulatory Guide; issuance.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is issuing a revision to regulatory guide (RG), 1.79, "Preoperational Testing of Emergency Core Cooling Systems for Pressurized-Water Reactors." This RG is being revised to incorporate guidance for preoperational testing of new pressurized water reactor (PWR) designs.

ADDRESSES: Please refer to Docket ID **NRC-2011-0129** when contacting the NRC about the availability of information regarding this document. You may access publicly-available information related to this action by the following methods:

- **Federal Rulemaking Web site:** Go to <http://www.regulations.gov> and search for Docket ID **NRC-2011-0129**. Address questions about NRC dockets to Carol Gallagher; telephone: 301-287-3422; e-mail: Carol.Gallagher@nrc.gov. For technical questions, contact the individual(s) listed in the FOR FURTHER INFORMATION CONTACT section of this document.

- **NRC's Agencywide Documents Access and Management System (ADAMS):** You may access publicly available documents online in the NRC Library at <http://www.nrc.gov/reading-rm/adams.html>. To begin the search, select "[ADAMS Public Documents](#)" and then select "[Begin Web-based ADAMS Search](#)." For problems with ADAMS,

please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to pdr.resource@nrc.gov. The ADAMS accession number for each document referenced in this notice (if that document is available in ADAMS) is provided the first time that a document is referenced. Revision 2 of RG 1.79 is available in ADAMS under Accession No. ML113540207. The regulatory analysis may be found in ADAMS under Accession No. ML113540212.

- **NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

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SUPPLEMENTARY INFORMATION:

I. Introduction

The NRC is issuing a revision to an existing guide in the NRC's "Regulatory Guide" series. This series was developed to describe and make available to the public such information as methods that are acceptable to the NRC staff for implementing specific parts of the NRC's regulations, techniques that the staff uses in evaluating specific problems or postulated accidents, and data that the staff needs in its review of applications for permits and licenses.

This revision of RG 1.79 describes the general scope and depth the NRC staff considers acceptable for demonstrating compliance with the NRC regulations relating to preoperational testing of features in the emergency core cooling systems (ECCSs) of pressurized water reactors (PWRs). This RG also describes methods the NRC staff finds acceptable for preoperational testing of ECCS structures, systems, and components (SSCs). Appendix A of RG 1.79 contains a discussion of the ECCS for the current fleet of PWRs as well as diagrams and descriptions of the ECCS for advanced PWR designs including the U.S. Advanced Pressurized-Water Reactor, U.S. Evolutionary Power Reactor, and AP1000.

This RG describes preoperational testing methods acceptable to the NRC staff specifically for ECCSs in PWRs. This RG is applicable to all PWRs licensed under part 50 of Title 10 of the *Code of Federal Regulations* (10 CFR), “Domestic Licensing of Production and Utilization Facilities” or 10 CFR part 52, “Licenses, Certifications, and Approvals for Nuclear Power Plants.”

Nuclear power plant SSCs must be tested to quality standards commensurate with their importance to safety. Criterion XI, “Test Control,” of Appendix B, “Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants,” to 10 CFR part 50 requires licensees to establish a testing program to identify and perform all tests needed to demonstrate that SSCs will perform satisfactorily in service. This testing program is to be conducted in accordance with written test procedures that incorporate the requirements and acceptance criteria in applicable design documents. The ECCS functions to be tested are those necessary to ensure that specified design functions of the ECCS are met during any condition of normal operation, including abnormal operating occurrences, or because of postulated accident conditions.

II. Additional Information

Revision 2 of RG 1.79 was issued with a temporary identification as Draft Regulatory Guide (DG) 1253, "Preoperational Testing of Emergency Core Cooling Systems for Pressurized-Water Reactors." Draft Regulatory Guide 1253, was published in the *Federal Register* on June 7, 2011 (76 FR 32878), for a 60-day public comment period. The public comment period closed on August 5, 2011, and no public comments were received. A companion guide, DG-1277, "Initial Test Program of Emergency Core Cooling Systems for New Boiling-Water Reactors" (proposed new RG 1.79.1) was published for public comment on June 15, 2012 (77 FR 36014). A total of 45 comments were received on DG-1277. Of these, 5 comments were considered to be applicable to both DG-1253 and DG-1277. These 5 comments resulted in revisions to this guide. The comments and the NRC staff responses are available in ADAMS at Accession No. ML13007A389.

IV. Congressional Review Act

This regulatory guide is a rule as designated in the Congressional Review Act (5 U.S.C. 801-808). However, the Office of Management and Budget (OMB) has not found it to be a major rule as designated in the Congressional Review Act.

III. Backfitting and Issue Finality

Issuance of this final regulatory guide does not constitute backfitting as defined in 10 CFR 50.109 (the Backfit Rule) and is not otherwise inconsistent with the issue finality provisions in 10 CFR part 52. As discussed in the "Implementation" section of this regulatory guide, the NRC has no current intention to impose this regulatory guide on holders of current operating licenses or combined licenses.

This regulatory guide may be applied to applications for operating licenses and combined licenses docketed by the NRC as of the date of issuance of the final regulatory guide, as well as future applications for operating licenses and combined licenses submitted after the issuance of the regulatory guide. Such action does not constitute backfitting as defined in 10 CFR 50.109(a)(1) or is otherwise inconsistent with the applicable issue finality provision in 10 CFR part 52, inasmuch as such applicants or potential applicants are not within the scope of entities protected by the Backfit Rule or the relevant issue finality provisions in part 52.

Dated at Rockville, Maryland, this 4th day of October, 2013.

For the Nuclear Regulatory Commission.

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